Remarks/Arguments:

Request for Continued Examination

This is a Request for Continued Examination of the above-captioned application.

Amendments

The limitations of claim 2 have been incorporated into claim 1, and claim 2 canceled. Claim 1 has also been amended to more particularly point out and distinctly claims the subject matter that applicants regard as the invention by the addition of parentheses. Support for the other amendments to claim 1 is found on page 13, lines 10-13, and in Table 2, Examples 1-4, 7-16, 17b-17g, and 17i. Claim 17 was amended to change dependency. Claim 21 has been amended as requested by the Examiner. Claim 21 has also been amended to change dependency. Support for new claim 22 is found on page 12, lines 1-2; page 12, lines 9-10; page 12, lines 15-16; page 13, lines 10-14; and page 12, lines 22-23. It is submitted that no new matter is introduced by these amendments and new claim.

Rejection under 35 USC 112, second paragraph

Claim 21 was rejected because it was not clear if the particles were metastable. Claim 21 has been amended as requested by the Examiner. It is submitted that this rejection has been overcome.

Rejection under 35 USC 102(b)

Claims 1-3 and 16-21, all the claims pending in the application, were rejected under 35 USC 102(b) as anticipated by Suzuki, EP 0 942 071 A1 ("Suzuki").

Suzuki does not disclose all the limitations of applicants' amended claim 1

1. Copper

Suzuki discloses a process for producing an aluminum alloy plate for a printing plate. The Office position is that although Suzuki does not disclose the presence of metastable phase intermetallic particles or the claimed ratios (C/B, or D/E), the aluminum alloy substrate

disclosed by Suzuki is identical to the claimed aluminum alloy substrate. Office action of July 28, 2006, page 3, lines 9-12. The Office relies on *In re Spada*, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990) for the proposition that "Products of identical chemical composition can not have mutually exclusive properties. A chemical composition and its properties are inseparable. Therefore, if the prior art teaches the identical chemical structure, the properties applicant discloses and/or claims are necessarily present." Office action of July 28, 2006, page 3, lines 14-18.

Claim 1 has been amended to recite that the upper limit of copper is 0.003 wt%, that the lower limit of magnesium is 0.021 wt%, and that the value of A/B is 0.2 or above, when A is a number of AlFe intermetallic compound particles having an equivalent-circle diameter of 0.1 to 1.0 μm, and B is a total number of AlFe intermetallic compound particles having a particle size of 0.1 or above.

Suzuki discloses a copper content of from 0.004 to 0.05 wt%. Suzuki, ¶ [0032]. This is outside the scope of claim 1.

The aluminum alloy plate recited in applicants' claim 1 has 0.001 wt% to 0.003 wt% copper. Suzuki discloses 0.004 to 0.05 wt% copper. Therefore, the aluminum alloy plate recited in claim 1 does not have the same composition as that disclosed by Suzuki. Consequently, *In re Spada* is not relevant to the instant situation.

Anticipation requires that each and every limitation of the claim be disclosed, either expressly or under principles of inherency, in a single prior art reference. *In re Robertson*, 49 USPQ2d 1949, 1950-51 (Fed. Cir. 1999). Absence from the reference of any claimed limitation negates anticipation. *Rowe v. Dror*, 42 USPQ2d 1550, 1553 (Fed. Cir. 1997). Because the aluminum alloy plate recited in claim 1 does not have the same composition as that disclosed by Suzuki, the rejection of claim 1 as anticipated by Suzuki should be withdrawn and claims 3 and 16-22 allowed as claims dependent on an allowable claim.

2. Zinc and Magnesium

Suzuki discloses that zinc is an "impurity," and that the amount of zinc in the aluminum alloy plate is about 0.05 wt% or less. Suzuki, ¶ [0037]. The maximum amount of zinc in Suzuki's examples is 0.006 wt%. *Id.*, Table 1, Comparison Alloy J. In contrast,

amended claim 1 of the instant application recites 0.01 to 0.1 wt% of zinc.

Suzuki also discloses that magnesium is an "impurity," and that the amount of magnesium in the aluminum alloy plate is about 0.05 wt% or less. *Id.*, ¶ [0037]. The maximum amount of magnesium in Suzuki's examples is 0.02 wt%. *Id.*, Table 1, Alloy H. In contrast, amended claim 1 of the instant application recites 0.021 to 0.1 wt% magnesium.

The range of zinc recited in amended claim 1, 0.01 to 0.1 wt% zinc, overlaps the range disclosed by Suzuki, 0 to about 0.05 wt% zinc, but is not identical with it. The range of magnesium recited in amended claim 1, 0.021 to 0.1 wt% magnesium, overlaps within the range disclosed by Suzuki, 0 to about 0.05 wt% magnesium, but is not identical with it. None of Suzuki's examples are within either the range of zinc or within the range of magnesium recited in amended claim 1. Therefore, neither the range of zinc recited in amended claim 1 nor the range of magnesium recited in amended claim 1 is anticipated by Suzuki.

In addition, amended claim 1 recites that the amounts of copper, iron, zinc, and magnesium satisfy the relationship:

$$0.15 \geq (Zn + Mg - (Fe/10) - Cu).$$

This relationship is not disclosed by Suzuki.

For these additional reasons, the rejection of claim 1 as anticipated by Suzuki should be withdrawn and claims 3 and 16-22 allowed as claims dependent on an allowable claim.

Suzuki teaches away from applicants' invention

Further, Suzuki discloses:

> The Cu content is defined to be from 0.004 to 0.05 wt%. Cu is an element which greatly influences chemical graining. When the Cu content is less than 0.004 wt%, the pit density on the electrolytically grained surface becomes high. As a result, the pit size becomes excessively small, or the pits are strained.

Suzuki, ¶ [0032] (emphasis added); *see* also Suzuki, Claim 1 (0.01 wt% to 0.05 wt% copper).

In contrast, Table 2 of the instant application has examples that contain 0.003 wt% or less of copper. *See*, specification, Table 2, Examples 1-5, 7-16, 17b-17g, and 17i. In general, these examples have superior properties, *i.e.*, streaking does not occur, the rupture resistance/printing durability is excellent, and roughened surface uniformity is excellent.

Suzuki teaches away from an aluminum alloy plate that comprises less than 0.004 wt% copper. According to Suzuki, when the copper content is less than 0.004 wt% copper, the pit density becomes high, causing the pit size to become excessively small or the pits are strained. The person of ordinary skill in the art, having the advantage of the teachings of Suzuki, would be dissuaded from using an aluminum alloy plate that comprises less than 0.004 wt% copper. Therefore, Suzuki does not suggest the aluminum alloy plate recited in applicants' claims, but instead teaches away from the invention. *See*, for example, *In re Gurley*, 31 USPQ2d 1130, 1131 (Fed. Cir. 1994) (a reference teaches away when it leads a person of ordinary skill in the art in a direction divergent from the path that was taken by the applicant).

Further, Suzuki discloses that zinc and magnesium are each an "impurity." Suzuki, ¶ [0037]. And that when the content of each element is as small as up to about 0.05%, "no significant effect is exerted on the result of the present invention." *Id.*

However, applicants' have found that "in the case of subjecting an aluminum alloy plate to an electrolytic etching process by immersion in an electrolytic treatment solution, as

the aluminum plate is moved from the roll, at right angles to the direction of the aluminum plate (the direction of moving the aluminum plate), streaking, the primary cause of uneven etching, occurs on the aluminum plate." Specification, page 3, lines 12-16. Therefore, it was necessary to provide an aluminum alloy plate for use as a lithographic printing plate where the uniformity of the surface roughening is improved, and streaking does not occur, and at the same time, which has improved strength, and does not readily crack at the time of mounting onto a press cylinder and where rupturing does not occur. *Id.*, page 4, lines 16-20.

In order to produce an aluminum plate alloy with these properties, it was necessary to specify the amounts of copper, iron, magnesium, zinc in the alloy and to specify the relationship between the amounts of these elements. Specification, page 9, lines 16-23. For example, it was found that when zinc is less than 0.01 wt%, it is difficult to obtain an improved effect on streaking. *Id.*, page 12, lines 11-17. It was further found that the amount of magnesium has a large influence on the occurrence of streaking such that when the amount of magnesium is less that 0.005 wt%, there is insufficient solubility at the cathode during electrolytic etching. *Id*, page 13, lines 6-10.

Because copper, iron, zinc, and magnesium each have an effect on the occurrence of streaking, the relationship between the amount of each element in the aluminum alloy plate was specified by the following relationship. Specification, page 13, lines 18-25.

$$0.15 \geq (Zn + Mg - (Fe/10) - Cu).$$

By specifying these amounts, as shown in Table 3, which presents experimental results of the test samples shown on Table 2, excellent effects were obtained with regard to whether or not streaking occurs, rupture resistance/printing durability, and surface roughness uniformity. *See*, Specification, Table 3.

In contrast, as described above, Suzuki teaches that zinc and magnesium are "impurities," and when the content of zinc and of magnesium is as small as up to about 0.05%, no significant effect is exerted on the result of the present invention. The person of ordinary skill in the art, having the advantage of the teachings of Suzuki would be dissuaded from controlling the amount of zinc and the amount of magnesium in the aluminum alloy plate as long as it was below 0.05 wt%. Further, the person of ordinary skill in the art would

be dissuaded from controlling the relationship between the amounts of zinc and magnesium relative to the amounts of iron and copper in the aluminum alloy plate.

In addition, the following relationships are important [*See*, specification, page 14, line 3, to page 15, line 13]:

1. The composition of said AlFe intermetallic compound particles having a particle size of 0.1 μm or above, the value of C/B is 0.35 or above when C is a number of AlFe metastable phase intermetallic compound particles having a ratio of Fe/Al of 0.6 or less, and B is a total number of AlFe intermetallic compound particles.

2. A value of A/B is 0.2 or above in the case that in said AlFe intermetallic compound particles, A is a number of AlFe intermetallic compound particles having an equivalent-circle diameter of 0.1 to 1.0 μm, and B is a total number of AlFe intermetallic compound particles having a particle size of 0.1 or above.

These relationships are neither disclosed nor suggested by Suzuki.

Dependent claim 17 recites that the metastable phase dispersion layer is in the range of 2 to 50 μm from the surface. This is not disclosed or suggested by Suzuki.

For these additional reasons, Suzuki does not suggest the invention recited in applicants' amended claim 1. Therefore, applicants' amended claim 1 and the claims dependent thereon are allowable over Suzuki.

Conclusion

It is respectfully submitted that the claim is in condition for immediate allowance and a notice to this effect is earnestly solicited. The Examiner is invited to phone applicant's attorney if it is believed that a telephonic or personal interview would expedite prosecution of the application.

Respectfully submitted,

Bruce M. Monroe
Registration Number 33,602
Attorney for Applicants

Dated: March 22, 2007

RatnerPrestia
P.O. Box 980
Valley Forge, PA 19482
(610) 407-0700

The Commissioner for Patents is hereby authorized to charge payment to Deposit Account No. **18-0350** of any fees associated with this communication.

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail, with sufficient postage, in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on: **March 22, 2007**

DK_H:\NRPORTBL\RP\DKELLY\130433_1.DOC